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EXAMINER	
KENDALL, CHUCK O	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/746,155	Applicant(s) GREEN ET AL.	
	Examiner Chuck O Kendall	Art Unit 2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed 12/22/00.

2. Claims 1 - 34 have been examined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 – 12,14 –18, 20 – 23, 25, 26, 28 – 30 and 32 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn et al. USPN 6,263,498 in view of Stack USPN 5,518,717.

Regarding claim 1, Alcorn discloses a method for designing utilizing software components in a N-tier software applications, the method comprising:

a. specifying a set of software component rules for creating software components (5:60-65);

b. specifying a set of tier rules for creating an extensible set of tiers, the tier rules further comprising (6:15-25):

i. a set of association rules by which at least one software component created using the software component rules may be associated with or disassociated from at least one tier created with the set of tier rules (6:50-60);

ii. a set of tier framework rules to provide an architect context for software components associated with a tier(6:50-60); and

iii. a set of package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific behaviors for the tier (6:15-20, see dips and refer to figure 9 for adding and modifying rules); and

Alcorn does not explicitly disclose, building N-tier software applications, and specifying a set of assembly rules, the assembly rules comprising association rules by which each tier may be associated with at least one other tier and linkage rules by which each tier may be linked to at least one other tier. However Stack does disclose this functionality in analogous art (Col. 5: 43 – 45, for program rules, also see Col.30:29 – 55, for building software applications). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Alcorn and Stack, because using assembly rules would make building the system more dynamic.

Regarding claim 2, the method of claim 1, wherein specifying a set of software component rules for creating software components further comprises:

a. specifying rules for specifying interfaces for each software component (Alcorn, Alcorn, 5:10 - 29) ; and

b. specifying rules for specifying behavior exhibited by each software component (Alcorn, 6:17 - 19).

Regarding claim 3, the method of claim 2 wherein specifying rules for specifying behavior further comprises:

a. specifying rules on how each software component encapsulates details of how functionality is implemented for that software component (Alcorn, 9:53 - 55); and

b. specifying rules on creating a well-defined interface reusable at a binary level for each software component (Alcorn, 10:40 - 50);

c. whereby each software component may be made available for use by any other software component that can use the well-defined interface of the first software component (Alcorn, 10:45 - 65).

Regarding claim 4, the method of claim 1 further comprising specifying library rules for selectively placing software components into and retrieving software components from an inventory of software components (Alcorn, 6:30 - 35).

Regarding claim 5, the method of claim 1, wherein software components rules comprise rules for supporting off-the-shelf components within software components or tiers, including rules to allow addition of off-the-shelf software components into the inventory (Alcorn, 5:35 - 40).

Regarding claim 6, the method of claim 1 further comprising specifying at least one software component modification rule whereby software components may be extended, the at least one software component modification rule comprising addition, modification, and deletion rules (Alcorn, 6:17 -19, see modify).

Regarding claim 7, the method of claim 1 wherein the software component rules further comprise rules for designating software component function points (Alcorn, 6:5 - 10, see functions).

Regarding claim 8, the method of claim 7 wherein the rules for designating software component function points further comprise rules to allow implementing software component interfaces required by a particular tier to which the software component belongs (Alcorn, 5:50 - 60, see CORBA).

Regarding claim 9, see reasoning in claim 1.

Regarding claim 10, the method of claim 1 wherein the framework rules further comprise rules on specifying at least one package for a framework, the package further comprising a set of interfaces to provide a specific behavior (Alcorn, 5:50 - 6:20, see CORBA and JDBC for interfaces for specific behavior).

Regarding claim 11, the method of claim 1 further comprising:

a. specifying a basic design structure comprising base components for software components in the tier (Alcorn, 8:14 - 20); and

b. specifying a set of standard interfaces for the software components categorized as belonging to the tier(Alcorn, 8:1 - 20);.

Regarding claim 12, the method of claim 1 wherein specifying a set of assembly rules further comprises:

a. specifying rules to allow assembling and compiling at least one tier to provide a stand-alone, executable program (Alcorn, 6:25 - 50, for assembling and compiling see build time); and

b. specifying rules on allowing combining software components and invoking an assembled application at run-time to form new unique applications on-the-fly (Alcorn, 6:40 - 45).

Regarding claim 14, the method of claim 1 further comprising specifying rules to allow defining one or more techniques to allow a software component to traverse a model, the model comprising one or more software components (Alcorn, 9:30 - 35).

Regarding claim 15, the method of claim 14 wherein the traversal of a model uses a predetermined interface (Alcorn, Fig 7, 706).

Regarding claim 16, the method of claim 1 further comprising specifying rules on implementing a template iterator class to facilitate accessing associations (Alcorn, 8:1 - 10, template iterator class see, predefined interconnected classes as interpreted by Examiner).

Regarding claim 17, the method of claim 16 wherein the template iterator class can be based at any software component's associations and can be used to iterate through all software components in the association or only through a specific software component type (Alcorn, 9:50 - 60).

Regarding 18, see reasoning in claim 1.

Regarding claim 20, see claim 1 for reasoning.

Regarding claim 21 see claim 2 for reasoning.

Regarding claim 22, the method of claim 21, further comprising specifying rules on defining packages, the packages comprising grouping of interfaces within a framework into subsets of interfaces to specify how a specific behavior, such as messaging or connecting, is to be provided (Alcorn, 11:45 - 55).

Regarding claim 23, see claim 1 for reasoning.

Regarding claim 24, Alcorn discloses all the claimed limitations as applied in claim 23 above. Alcorn doesn't explicitly disclose testing and assessing components. However, Stack does disclose this functionality in analogous art (Col.28: 25 – 35, see

test rules, also see 27: 25 – 35,for validation). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Alcorn and Stack because, testing and validating components or software makes the system more maintainable.

Regarding claim 25, method of claim 23 wherein the new or restructured software components are either tailored into the current architecture or the architecture is expanded by adding one or more tiers to accommodate the new or restructured software component (Alcorn, figure 9, 902).

Regarding claim 26, the method of claim 23 where software components that are so specific they can only be used in a current application are not added to the inventory (Alcorn 5: 45 - 50 for specific components see Java remote method invocation and CORBA).

Regarding claim 28, see reasoning in claim 5.

Regarding claim 29, see reasoning in claim 1.

Regarding claim 30, the system of claim 29 wherein the communications pathway is a network, (Alcorn, see fig 1).

Regarding claim 32, see claim 1 for reasoning.

Regarding claim 33, see claim 1 for reasoning.

Regarding claim 34, see claim 2 for reasoning.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 13,19, & 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn et al. USPN 6,263,498 in view of Stack USPN 5,518,717, as applied in claim 1, in view of Ozze et al USPN 6,446,113 B1.

Regarding claims 13, Alcorn as modified with Stack diclsoes all the claimed limitations as applied in claim 1. Alcorn as modified with Stack doesn't explicitly disclose allowing each software component to execute asynchronously. However, Ozze does disclose this feature (Ozze, 6:48). Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine Alcorn as modified with Stack and Ozze because, executing asynchronously within the thread eliminates delays and executes independently of other routines.

Regarding claims 19, Alcorn as modified with Stack discloses all the claimed limitations as applied in claim 18. Alcorn as modified with Stack doesn't explicitly disclose reusable by any system Toying software components designed in accordance with the method of claim 18. However, Ozze does disclose this feature (Ozze 3:50-55). Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine Alcorn as modified with Stack and Ozze because, using reusable components maitain low overhead.

Regarding claim 31, Alcorn as modified with Stack discloses all the claimed limitations as applied in claim 30. Alcorn as modified with Stack doesn't explicitly disclose wherein the network comprises asynchronous communications. However, Ozze does disclose this feature (Ozze, 6:48 and claim 22 for synchronous notification and communication). Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine Alcorn as modified with Stack and Ozze because, using asynchronous communication would make the system more compatible with other systems.

R spons to Arguments

Applicant's arguments, in response, filed 11/04/2003, with respect to claim 1, have been fully considered and are persuasive. The previous of rejections has been withdrawn.

Correspondence Information

7. Any inquires concerning this communication or earlier communications from the examiner should be directed to Chuck O. Kendall who may be reached via telephone at (703) 308-6608. The examiner can normally be reached Monday through Friday between 8:00 A.M. and 5:00 P.M. est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam *can be* reached at *(703) 305-4552.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is *(703) 305-3900.*

For facsimile (fax) send to 703-7467239 official and 703-7467240 draft

Chuck O. Kendall

Software Engineer Patent Examiner

United States Department of Commerce

TUAN DAM
SUPERVISORY PATENT EXAMINER